Otto Bock®

QUALITY FOR LIFE

Avantgarde
Service Manual

Avantgarde T – Avantgarde Ti8.9 – Avantgarde Ti Ultra
Avantgarde XXL 2 – Avantgarde VR – Avantgarde Teen 2

Table of Contents

1 Preface **2**
2 Safety **2**
3 Maintenance Plan and Required Tools **3**

Avantgarde T 5
Avantgarde Ti8.9 6
Avantgarde Ti Ultra 7
Avantgarde VR 8
Avantgarde XXL 2 9
Avantgarde Teen 2 10

4 Settings / Replacement / Retrofit **11**

4.A Frame 12
4.B Footrests 15
4.C Seat 24
4.D Back / Push Handles 26
4.E Side Panel 29
4.F Caster 32
4.G Rear Wheel 35
4.H Brake/ Wheel Lock 40
4.S Accessories, Accessory Products 47

The following short forms are used in Section 4 to indicate which Avantgarde model the instructions are for.

Avantgarde T ..... **T**

Avantgarde Ti 8.9 ..... **Ti8.9**

Avantgarde Ti Ultra ..... **Ti Ultra**

Avantgarde VR ..... **VR**

Avantgarde XXL 2 ..... **XXL 2**

Avantgarde Teen 2 with T frame **Teen2-T**

Avantgarde Teen 2 with VR frame **Teen2-VR**

1 Preface

Regular maintenance is important. It increases safety and prolongs the service life of the product.
All rehab products should be inspected and serviced once a year.
However, if the product is used frequently (e.g. wheelchair for active use), or if it is used by growing children or patients with changing clinical conditions, we recommend readjusting and servicing the product every 3-6 months.
Use only original spare parts for all service and maintenance.
The service and maintenance described in this manual should be performed by trained specialists only and not by the user.
This service and maintenance manual refers to the spare parts catalogs and instructions for use manuals for the products described. For this reason, it is important to use these documents together. Use the maintenance plans (check list) as a template for making copies. Retain completed maintenance plans and provide the customer with a copy.

	Instructions for use	Spare parts catalog
Avantgarde T	**647G124**	**646K63**
Avantgarde Ti 8.9	**647G124**	**646K63**
Avantgarde Ti Ultra	**647G124**	**646K63**
Avantgarde VR	**647G124**	**646K63**
Avantgarde XXL 2	**647G124**	**646K63**
Avantgarde Teen 2	**647G144**	**646K63**

2 Safety

For all maintenance and repair works, there are a few points you should always observe:

Use appropriate tools (refer to pages 3 & 4).

Wear appropriate clothing, including gloves and safety glasses, if necessary.

Secure the product to prevent it from tipping over or falling off the workbench.

Read the service and maintenance instructions before starting.

Familiarize yourself with the functions of the product. If you are not familiar with the product, read the instructions for use manual before inspecting the product.

If you do not have an instructions for use manual, you can order one from the manufacturer (see the overview of all Otto Bock Branches "Otto Bock Worldwide").

Alternatively, you can download documents from our home page at www.ottobock.de or www.ottobock.com.

Clean or disinfect the product before starting inspection. See the instructions for use manual for care instructions or specific product inspection information.

Many of the screw fastenings use thread lock or nylock nuts. If you have to undo such screw fastenings, replace the nut or screw with a new thread lock and/or nut. If new screws or nuts with thread lock are not available, use a medium-strength liquid thread lock substance (such as Loctite 241 or Euro Lock A24.20).

3 Maintenance Plan and Required Tools

The following list shows you the tools and auxiliaries used.

Reversible ratchet handle wrench and sockets, sizes 8 mm - 24 mm

Torque wrench, measuring range 5 - 50 Nm

Wrenches, sizes 8 - 24

Contained in 481C08=ST010 Tool Set

Allen wrenches, sizes 2.5 mm - 6 mm

Sizes 3 - 6 are contained in 481C08=ST010 Tool Set

Screwdriver, blade widths 2.5, 3.5, and 5.5 mm

Phillips head screwdriver, size 2

Plastic hammer

Hammer, approx. 300 g

Circlip pliers

Side cutting pliers

Level

Pin punch
ø 3 mm
ø 4 mm
ø 5 mm
ø 6 mm

Pop rivet gun
for rivets up to
ø 5 mm

Twist drill
ø 3.2 mm
ø 5 mm
ø 5.2 mm
ø 6 mm

Hand drill

Tire mounting
levers
Inner tube repair
kit

Contained in
481C08=ST010
Tool Set

Stanley knife with
sickle hooked
blade and stan-
dard blade

Workbench as
well as a vise
with plastic jaws
and rubber insert

Liquid thread
lock "medium
strength"

Maintenance Plan for regular service		**Avantgarde T** - Wheelchair for active use -						Otto Bock®
Item	**Component (group)**	**Inspection** (check list)						
		1.) Function / setting		2.) Damages / deformations		3.) Screw connections		
A	Frame	· Frame		x		x		
	Frame accessories	· Transport wheels · Anti-tipper · Tip-assist · Crutch holder · Frame pad		x x x x x		x x x x		
B	Footrests	· Folding mechanism · Lower leg length adjustment · Angle adjustment		x x x		x x x		
	Footrest accessories	· Locking device for single-panel footrest · Lateral heel block · Heel band		x x x		x x x		
C	Seat	· Crossbrace · Seat upholstery · Seat cushion		x x x		x x		
D	Back / Push handles	· Back upholstery · Back height · Angle adjustment · Push handles · Back cushion		x x x x		 x x		
E	Side panels	· Height setting · Swivel mechanism · Removability		x x x		x x		
	Side panel accessories	· Armrest padded, swing-away · Tray		x x		x x		
F	Caster	· Tires (wear) · Air pressure · Caster journal angle · Screw connection to the frame · Running behavior of the wheels · Swiveling of the caster forks		x x x x x x		x x x x x x		
	Caster accessories	· Quick-release axles		x		x		
G	Rear wheel	· Tires (wear) · Air pressure · Running behavior of the wheels · Spokes · Push rings · Quick-release axles · Wheel camber · Rear wheel attachment		x x x x x x x x		x x x x x x x x		
	Rear wheel accessories	· Drum brake · Hub brake · One-arm drive · Wheelbase extension · Spoke protector · Spring system (shock absorber system)		x x x x x x		x x x x x x		
H	Brakes/Wheel locks	· Brake function · Swing-away mechanism · Reverse-roll lock		x x x		x x x		
	Brake/Wheel lock accessories	· Wheel lock lever extension		x		x		
	Do the settings of the wheelchair comply with the user's requirements?	x						

Maintenance Plan for regular service		**Avantgarde Ti 8.9** - Wheelchair for active use -					
Item	**Component (group)**	**Inspection** (check list)					
		1.) Function / setting		2.) Damages / deformations		3.) Screw connections	
A	Frame	· Frame		x		x	
	Frame accessories	· Transport wheels · Anti-tipper · Frame pad		x x x		x x	
B	Footrests	· Folding mechanism · Lower leg length adjustment · Angle adjustment		x x x		x x x	
C	Seat	· Crossbrace · Seat upholstery · Seat cushion		x x x		x x	
D	Back / Push handles	· Back upholstery · Angle adjustment · Push handles		x x x		 x x	
E	Side panels	· Height setting · Folding mechanism · Removability		x x x		x x	
	Side panel accessories	· Armrest padded, swing-away · Tray		x x		x x	
F	Caster	· Tires (wear) · Air pressure · Caster journal angle · Screw connection to the frame · Running behavior of the wheels · Swiveling of the caster forks		x x x x x x		x x x x x x	
	Caster accessories	· Quick-release axles		x		x	
G	Rear wheel	· Tires (wear) · Air pressure · Running behavior of the wheels · Spokes · Push rings · Quick-release axles · Wheel camber · Rear wheel adapter		x x x x x x x x		x x x x x x x x	
	Rear wheel accessories	·Hub brake ·Wheelbase extension ·Spoke protector ·Spring system (shock absorber system)		x x x x x		x x x x x	
H	Brakes/Wheel locks	· Brake function · Swing-away mechanism · Reverse-roll lock		x x x		x x x	
	Brake/Wheel lock accessories	· Wheel lock lever extension		x		x	
	Do the settings of the wheelchair comply with the user's requirements?	x					
The maintenance was carried out by:				on:			

Maintenance Plan for regular service		**Avantgarde Ti Ultra** - Wheelchair for active use -					
Item	**Component (group)**	**Inspection** (check list)					
		1.) Function / setting		2.) Damages / deformations		3.) Screw connections	
A	Frame	· Frame		x		x	
	Frame accessories	· Frame pad		x			
B	Footrests	· Folding mechanism · Lower leg length adjustment · Angle adjustment		x x x		x x x	
C	Seat	· Crossbrace · Seat upholstery · Seat cushion		x x x		x x	
D	Back / Push handles	· Back upholstery · Push handles		x x			
E	Side panels	· Height setting · Folding mechanism		x x		x x	
F	Caster	· Tires (wear) · Air pressure · Caster journal angle · Screw connection to the frame · Running behavior of the wheels · Swiveling of the caster forks		x x x x x x		x x x x x x	
G	Rear wheel	· Tires (wear) · Air pressure · Running behavior of the wheels · Spokes · Push rings · Quick-release axles		x x x x x x		x x x x x x	
H	Brake/ Wheel lock	· Brake function · Swing-away mechanism · Reverse-roll lock		x x x		x x x	
	Brake/Wheel lock accessories	· Wheel lock lever extension		x		x	
	Do the settings of the wheelchair comply with the user's requirements?	x					
The maintenance was carried out by:				on:			

Maintenance Plan for regular service		**Avantgarde VR** - Wheelchair for active use -					
Item	**Component (group)**	**Inspection** (check list)					
		1.) Function / setting		2.) Damages / deformations		3.) Screw connections	
A	Frame	· Footrest holder · Frame		x		x	
	Frame accessories	· Transport wheels · Anti-tipper · Tip-assist · Crutch holder · Frame pad		x x x x x		x x x x	
B	Footrests	· Folding mechanism · Lower leg length adjustment · Angle adjustment		x x x		x x x	
	Footrest accessories	· Locking device for single-panel footrest · Lateral heel block · Heel band		x x x		x x x	
C	Seat	· Crossbrace · Seat upholstery · Seat cushion		x x x		x x	
D	Back	· Back upholstery · Back height · Angle adjustment		x x		x	
	Push handles	· Push handles · Back cushion		x x		x x	
E	Side panels	· Height setting · Swivel mechanism · Removability		x x x		x x	
F	Caster	· Tires (wear) · Air pressure · Caster journal angle · Screw connection to the frame · Running behavior of the wheels · Swiveling of the caster forks		x x x x x x		x x x x x x	
	Caster accessories	· Quick-release axles		x		x	
G	Rear wheel	· Tires (wear) · Air pressure · Running behavior of the wheels · Spokes · Push rings · Quick-release axles · Wheel camber · Rear wheel adapter		x x x x x x x x		x x x x x x x x	
	Rear wheel accessories	· Drum brake · Hub brake · One-arm drive · Wheelbase extension · Spoke protector · Spring system (shock absorber system)		x x x x x x		x x x x x x	
H	Brakes/Wheel locks	· Brake function · Swing-away mechanism · Reverse-roll lock		x x x		x x x	
	Brake/Wheel lock accessories	· Wheel lock lever extension		x		x	
	Do the settings of the wheelchair comply with the user's requirements?	x					
The maintenance was carried out by:				on:			

Maintenance Plan for regular service		**Avantgarde XXL 2** - Wheelchair for active use -					
Item	**Component (group)**	**Inspection** (check list)					
		1.) Function / setting		2.) Damages / deformations		3.) Screw connections	
A	Frame	· Footrest holder · Frame		x		x	
	Frame accessories	· Transport wheels · Anti-tipper · Tip-assist · Crutch holder · Frame pad		x x x x x		x x x x	
B	Footrests	· Folding mechanism · Lower leg length adjustment · Angle adjustment		x x x		x x x	
	Footrest accessories	· Lateral heel block · Heel band		x x		x x	
C	Seat	· Crossbrace · Seat upholstery · Seat cushion		x x x		x x	
D	Back	· Back upholstery · Back height · Angle adjustment		x x		 x	
	Push handles	· Push handles · Back cushion		x x		x x	
E	Side panels	· Height setting · Folding mechanism · Removability		x x x		x x	
F	Caster	· Tires (wear) · Air pressure · Caster journal angle · Screw connection to the frame · Running behavior of the wheels · Swiveling of the caster forks		x x x x x x		x x x x x x	
	Caster accessories	· Drum brake		x		x	
G	Rear wheel	· Tires (wear) · Air pressure · Running behavior of the wheels · Spokes · Push rings · Quick-release axles · Wheel camber · Rear wheel adapter		x x x x x x x x		x x x x x x x x	
	Rear wheel accessories	· Drum brake · Spoke protectors		x x		x x	
H	Brakes/Wheel locks	· Brake function · Swing-away mechanism · Reverse-roll lock		x x x		x x x	
	Brake/Wheel lock accessories	· Wheel lock lever extension		x		x	
	Do the settings of the wheelchair comply with the user's requirements?	x					
The maintenance was carried out by:				on:			

Maintenance Plan for regular service		**Avantgarde Teen 2** - Wheelchair for active use -					
Item	**Component (group)**	**Inspection** (check list)					
		1.) Function / setting		2.) Damages / deformations		3.) Screw connections	
A	Frame	· Frame		x		x	
	Frame accessories	· Transport wheels · Anti-tipper · Tip-assist · Crutch holder · Frame pad		x x x x x		x x x x	
B	Footrests	· Folding mechanism · Lower leg length adjustment · Angle adjustment		x x x		x x x	
	Footrest accessories	· Locking device for single-panel footrest · Lateral heel block · Heel band		x x x		x x x	
C	Seat	· Crossbrace · Seat upholstery · Seat cushion		x x x		x x	
D	Back / Push handles	· Back upholstery · Back height · Angle adjustment · Push handles · Back cushion		x x x x		 x x	
E	Side panels	· Height setting		x		x	
	Side panel accessories	· Armrest padded, swing-away · Tray		x x		x x	
F	Caster	· Tires (wear) · Air pressure · Caster journal angle · Screw connection to the frame · Running behavior of the wheels · Swiveling of the caster forks		x x x x x x		x x x x x x	
	Caster accessories	· Quick-release axles		x		x	
G	Rear wheel	· Tires (wear) · Air pressure · Running behavior of the wheels · Spokes · Push rings · Quick-release axles · Wheel camber · Rear wheel attachment		x x x x x x x x		x x x x x x x x	
	Rear wheel accessories	· Drum brake · Hub brake · One-arm drive · Wheelbase extension · Spoke protector · Spring system (shock absorber system)		x x x x x x		x x x x x x	
H	Brakes/Wheel locks	· Brake function		x		x	
	Brake/Wheel lock accessories	· Wheel lock lever extension		x		x	
	Do the settings of the wheelchair comply with the user's requirements?	x					
The maintenance was carried out by:				on:			

4 Settings / Replacement / Retrofit

4.A - Frame

Replacing the front frame part
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

First remove the rear wheels and detach the side panels (see 4.E). Then place the unfolded wheelchair on its side on a flat work surface.
Undo and remove the screws of the caster wheel mountings and take the mountings off with the forks and caster wheels still attached to them.

Detach the wheel locks (see 4.H).

Undo the screws of the front support brackets and remove them.

There is the possibility to attach further support brackets to the free rivets under the seat tubes. This increases the wheelchair's stability but also means that more effort is required for folding.

Remove the heel band.
T, Ti8.9, Teen2-T, Ti Ultra
Undo and remove the screws from the footrest bars and pull the footrest completely out of the front frame.
VR, Teen2-VR, XXL 2
Swing the footrests aside and pull them up and out of the front frame part (see 4.B).
If using footrests for **short lower leg lengths** please follow the instructions in **4.B**.

Pull the front frame parts off the linking tubes.
Remove the threaded bolts of the wheel lock from the front frame parts (see 4.H).
For reassembly, please proceed in reverse order.
Use new screws coated with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).
When attaching the caster mountings, be sure to tighten them to the correct torque values (see 4.F).

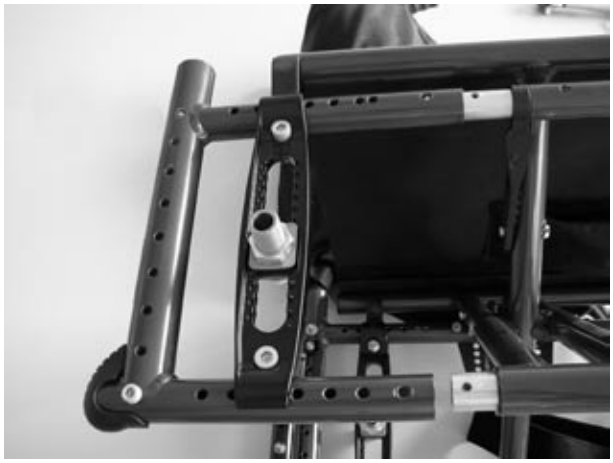
Replacing the footrest bar bushing
T, Ti8.9, Teen2-T, Ti Ultra

The bushing is held in the frame tube by a snap-in tooth. Press the tooth in using a tool such as an Allen wrench, size 3, and pull the bushing out.

When replacing the bushing make sure that the tooth engages in the hole.

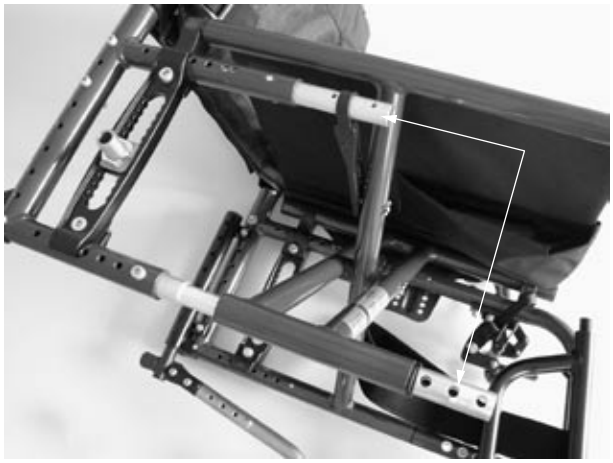
Replacing the rear frame part
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2

First remove the rear wheels, the side panels (see 4.E) and the backrest (see 4.D).
Place the unfolded wheelchair on its side on a flat work surface.
Undo and remove the marked screw connections on the left and right side of the frame.



Now pull the rear frame parts off the linking tubes. You can now easily access and remove all the items mounted to the rear frame parts.

- Rear wheel attachment
- Rear support brackets
- Tube end plugs
- Receiver tube for accessories (anti-tipper, transport wheels)
- Tip-assist
- Crutch holder
- Attachment device for armrest
- Wheelbase extension
- Adapter for power add-on drives



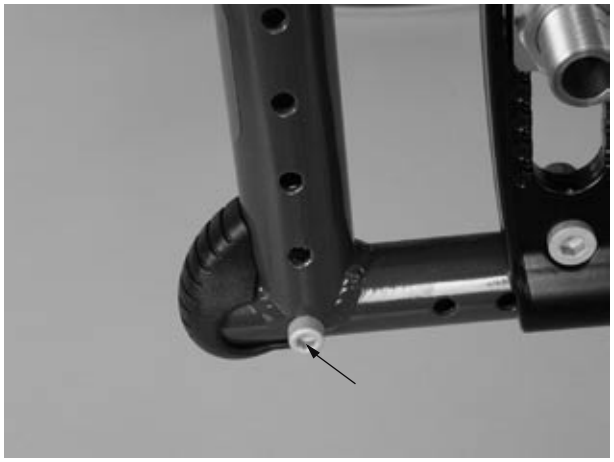
Replacing the linking tubes
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
The linking tubes can be replaced after undoing and removing the screw connections that allow the front and rear frame parts to be removed and after removing the crossbrace (see 4.C).
For reassembly, please proceed in reverse order. Use new screws coated with thread lock or apply a liquid thread lock to the existing screws (refer to section 3). When attaching the rear wheel mountings, be sure to tighten them to the correct torque values (see 4.G).

Replacing the rear frame part
Ti Ultra
Use the same procedure as for mounting the other frame models. Please be aware, however, that the Ti Ultra's back tubes are integrated into the rear frame part.

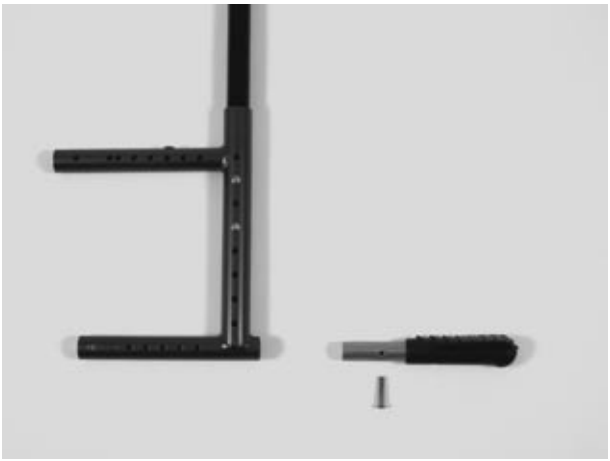
Attaching / Setting the anti-tipper
Replacing the expansion spring
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2

Please observe the information given in the instructions for use manual.

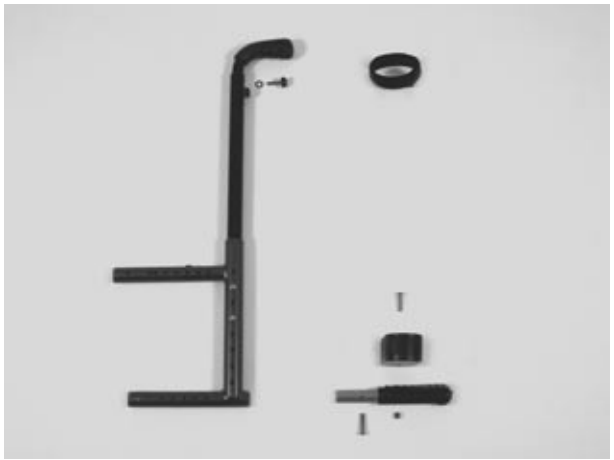
Attaching / Setting the transport wheels
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
First attach the two mountings to the rear frame parts as described under 'Anti-tipper'.
By pressing the tripod spring in you can now put the two transport wheels into the mountings.
Make sure that the tripod spring locks into one of the holes and that both transport wheels are set to the same height.



Attaching the tip-assist
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
Undo and remove the screw.
Pull the tube end plug out of the rear frame part.



Put the tip-assist into the frame tube and tighten the screw connection.



Attaching the crutch holder
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2

Use the same procedure as for the tip-assist.

Use a screw to fix the hook and loop strap to the top end of the back tube.

Attaching the frame pad
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Wrap the frame pads around the front frame parts as in the picture and close the hook and loop strap.

Cleaning the frame pad
Use a mild household detergent to clean the frame pad.

4.B - Footrests

Setting the footrests

Model: 481B45=SK060, 481B45=SK080, 481B45=PK085, ... 481B45=SK100, 481B45=SK180, 481B45=SK185, ... 481B45=PK190

T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Please observe the information given in the instructions for use manual.

Attaching the footrests

Model: 481B45=SK060, 481B45=SK080, 481B45=PK085

T, Ti8.9, Teen2-T, Ti Ultra

Push the footrest bars into the front frame parts. Set the lower leg length evenly on both sides and fix the footrest bars in position by tightening the cap screws.

Make sure that the bushings for the footrest bars are inserted in the front frame parts (see 4.A).

Attaching the footrests

Model: 481B45=SK180, 481B45=SK185, 481B45=PK190

VR, Teen2-VR, XXL 2

Insert the footrest holders from above into the front frame parts as shown in the photo.
Turn the footrest holders to the front until the swivel segment engages with the lock.
For adjusting the lower leg length, please observe the information given in the instructions for use manual.

Replacing the lock piece

VR, Teen2-VR, XXL 2

Loosen and remove the screw and remove the lock piece.

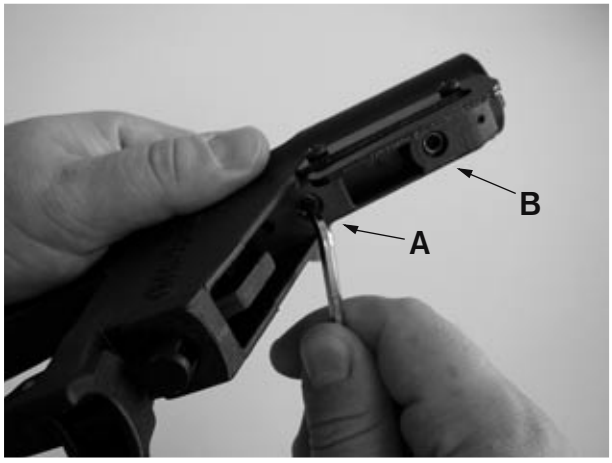
For reassembly, please proceed in reverse order. Use new screws coated with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).

Replacing the pivot bearing
VR, Teen2-VR, XXL 2

Loosen and remove the screw and remove the pivot bearing.

For reassembly, please proceed in reverse order.

Use new screws coated with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).



Replacing the swivel segment
VR, Teen2-VR, XXL 2

Remove the footrest holder from the frame.

Loosen the set screw (B) and pull the footrest bar out of the footrest holder.

Loosen and remove the set screw (A).

Pull the frame tube of the footrest holder out of the swivel unit.

Pay attention to the clamp piece, which is only laid in.

For reassembly, please proceed in reverse order.

Before putting the parts together, lay the clamp piece into the opening of the frame tube as shown in the photo.

Use new set screws coated with thread lock or apply a liquid thread lock to the existing set screws (refer to section 3).

Setting the footrest for short lower leg lengths
Model: 481B45=SK090
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra

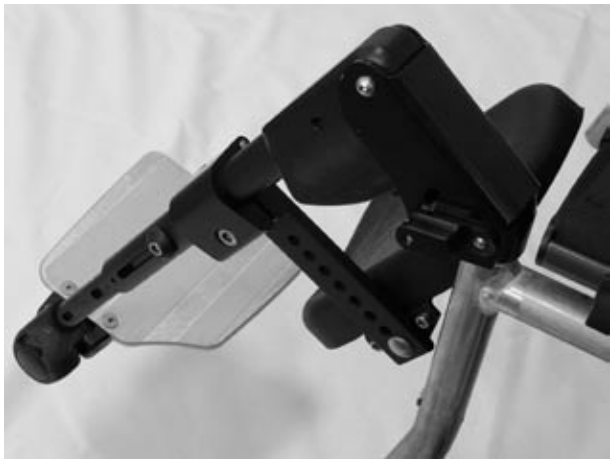
Please observe the information given in the instructions for use manual.

Attaching the footrest for short lower leg lengths
Model: 481B45=SK090
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra

Undo and remove the screw connection of the caster mounting, which also connects the eccentric plate.

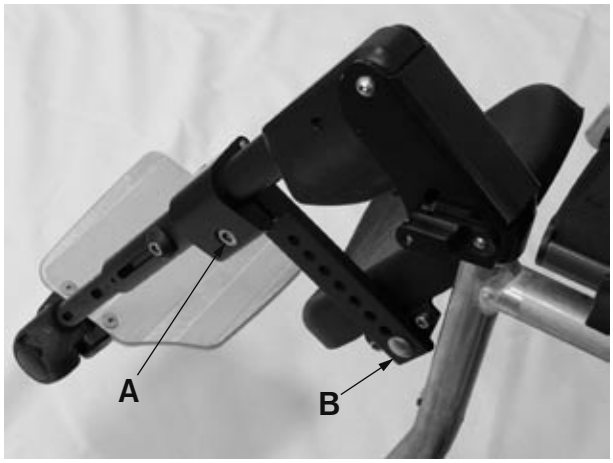
Screw the halves of the housing to the caster mountings. Use the longer screws supplied.

Push the clamp on to connect the footplate to the housing.



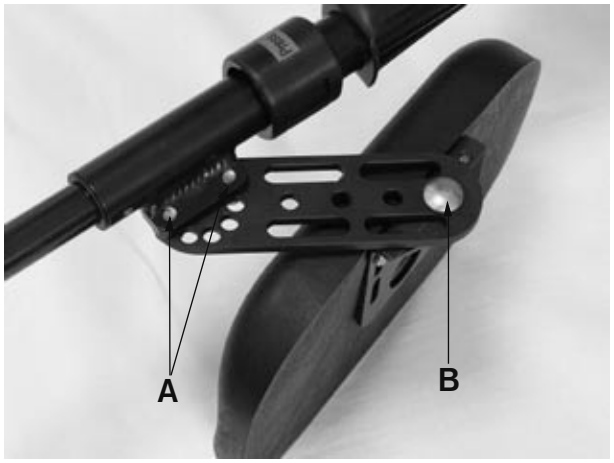
Setting the elevating footrests
Model: 481B45=PK195,..LK195, ..RK195,
481B45=PK200, ..LK200, ..RK200
VR

Please observe the information given in the instructions for use manual.



Setting or replacing the calf pads of the elevating footrests
Model: 481B45=PK200, ..LK200, ..RK200
VR

After loosening the screw (A) in the clamping unit the calf pad can be adjusted in height.
After loosening and removing the screw connection (B) the calf pad can be adjusted in depth along the row of holes.
For re-assembly, snugly tighten the screw connections.



Setting or replacing the calf pads of the elevating footrests with automatic length adjustment

Model: 481B45=PK195,..LK195, ..RK195

VR

After loosening and removing the screw connections (A) the calf pad can be adjusted in height.

After loosening and removing the screw connection (B) the calf pad can be adjusted in depth along the row of holes.

For re-assembly, snugly tighten the screw connections.

Attaching the elevating footrests

Model: 481B45=PK195,..LK195, ..RK195, 481B45=PK200, ..LK200, ..RK200

VR

First disassemble the lock piece. Fill two-component adhesive into the thread of the clamping bolt (refer to section 4.D Replacing the Rubber Hand Grips) and slightly screw in the set screw. Insert the clamping bolt into the front frame part and fix the clamping bolt by re-assembling the lock piece. Firmly tighten the set screw to cause the adhesive to distribute evenly between the frame tube and clamping bolt. Now wait for at least 24 hours so as to allow full curing of the adhesive. Hang in the footrest.

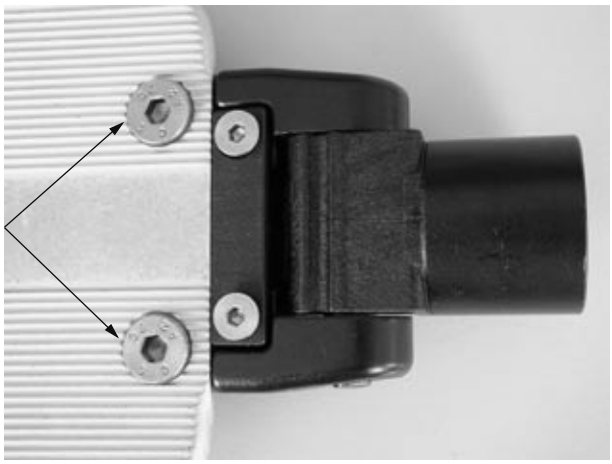
Replacing the calf pad

VR

Loosen and remove the screw and remove the calf pad.

For reassembly, please proceed in reverse order.

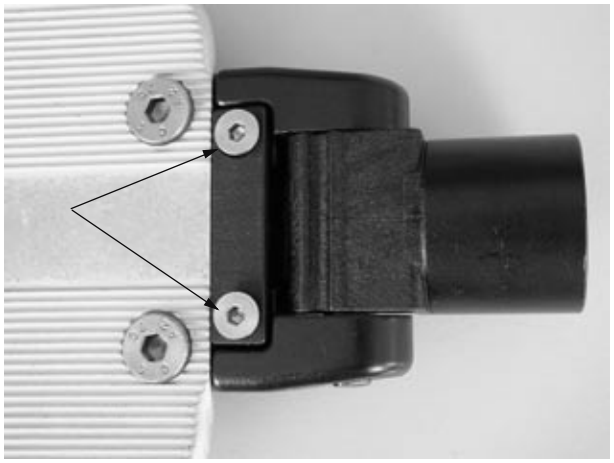
The slotted holes in the calf pad retainer plate allow for sideways adjustments of the calf pad.



Replacing the footplates

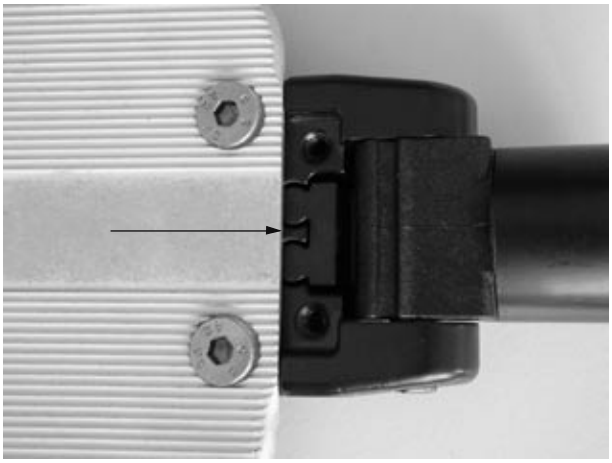
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Loosen and remove the screw connections on the sides of the footplate and remove the footplate from the bearing segments.
For reassembly, please proceed in reverse order. Use new screws coated with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).



Replacing the locking clip and the cover
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Loosen and remove the screw connections of the cover and remove the cover.

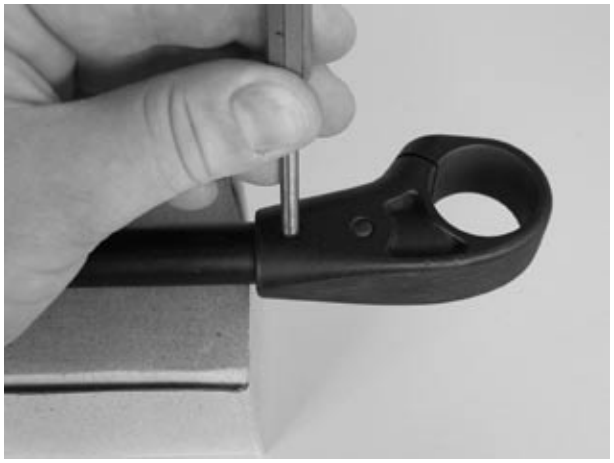


Take the locking clip out of the bearing segment and replace it with a new one.

In case of bearing segments up to size 2, the locking clip can only be removed after the screw connection of the footplate has been opened slightly.

For reassembly, please proceed in reverse order.

Use new screws coated with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).



Replacing the footrest bars
T, VR, Teen2-T, Teen2-VR, XXL 2
First pull the footrest bars out of the front frame part (see 4.A) or out of the footrest holder.
Undo the screw connection for the angle adjustment of the footplates and pull the receivers off the bearings.

For later reassembly, please proceed in reverse order.

Drive the half length taper-grooved dowel pins out of the receivers using a pin punch (Ø 5 mm) and then pull the footrest bar out of the receiver.

Insert the new footrest bar into the receiver and fasten it with the dowel pins.
Use a plastic hammer for driving in the dowel pins.

Ensure that the dowel pins are seated equally deep in the bore holes on both sides.
If necessary, drive the dowel pin deeper into the hole using a pin punch (ø 5 mm).

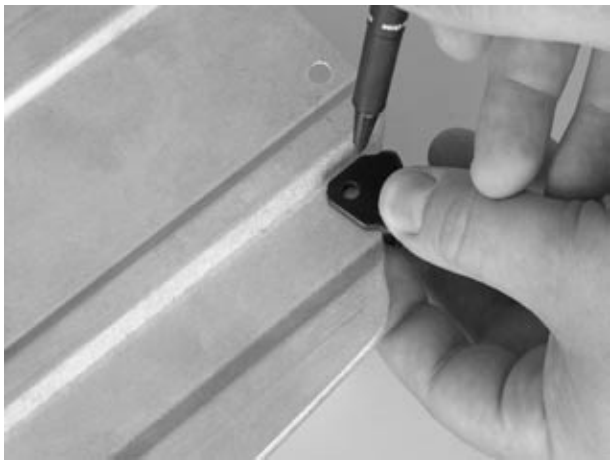
Ensure that the half length taper-grooved dowel pins are driven in or out from the correct side.
The side with the grooves (in the photo on the right) is the wider end of the dowel pin – the side without grooves (in the photo on the left) is the narrower beginning of the pin. For driving out the pin hit the narrower end; for driving in hit the grooved end of the pin.

Attaching the locking device for single-panel footrest
T, VR, Teen2-T, Teen2-VR

For attaching the locking device it is not necessary to disassemble the footrest from the wheelchair.
Flip up the footplate of the single-panel footrest.
Undo the screw connection for the angle adjustment of the footplate and replace the standard bearing (the upper unit in the picture) with the bearing with locking device (the lower unit in the picture).

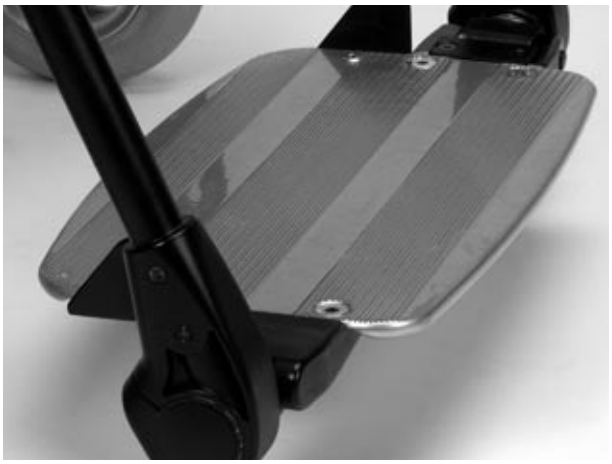
Fold down the footplate and let the support segment engage in the locking device.

Now tighten the screw connection for the angle adjustment of the footplate.

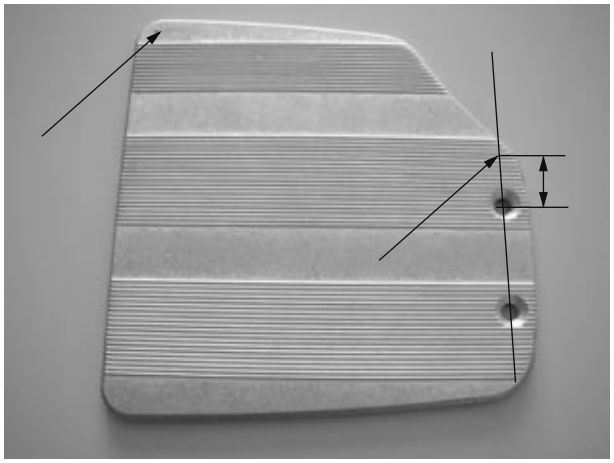


Attaching the lateral heel blocks
T, VR, Teen2-T, Teen2-VR, XXL 2

Hold the heel block against the underside of the footplate and mark the drill hole. Use a center punch to make a guide notch and drill a 5 millimeter diameter hole.



Insert the supplied rivet into the footplate from the upper side and then attach the lateral heel block to the rivet from below before fixing the rivet using a pop rivet gun.
Repeat this procedure for the other side of the footplate.
If you need to remove the rivet, then drill out the rivet head with a 6 millimeter diameter drill bit. Then drive the rivet through the footplate using a 4 millimeter pin punch.



Attaching the heel bands for individual footrests T, VR, Teen2-T, Teen2-VR, XXL 2

The footplates must first be provided with two bore holes each with a diameter of 5.2 mm.

The mounting hole on the rear edge of the footplate is center marked.

The drill hole besides the footrest screw connection should be 17 mm above the existing drill hole.

Attach the heel band holders from underneath with the screws provided.

Attach the heel band to the holders.

Replacing the footplates

Model 481B45=SK100

Ti8.9, Ti Ultra

Open the screw connections for the angle adjustment of the footplate and pull the clamps out of the footplate.

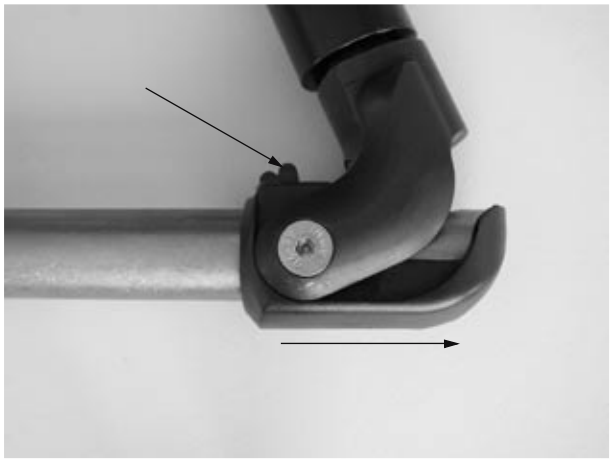
For reassembly, please proceed in reverse order.

Replacing the footrest bars

Model: 481B45=SK100

Ti8.9, Ti Ultra

First pull the footrest bars out of the front frame part (see 4.A).
Open the screw connection for the angle adjustment of the footplate and pull the clamp out of the footplate.
Use the procedure described in 'Replacing the footrest bars' in section 4.B on the side with the pins.



The side with the fork part is screwed in place.

Loosen and remove the screw connection and pull out the joint bolt. Put aside the fork part and pull the cover off the footrest bar.
The cover at the same time is the **spring element** that holds the footplate in flipped-up position.

Attaching the plastic footplate lining

Ti8.9, Ti Ultra

First disassemble the fooplate. Put the footplate lining directly in the middle of the footplate. Carefully drill a 3.2 millimeter diameter hole through the existing footplate lining holes into the footplate. Insert one of the supplied rivets from the upper side through the footplate lining and use a pop rivet gun to secure it. Repeat this procedure for the other three holes. If you need to remove the rivet, then drill out the rivet head with a 5 millimeter diameter drill bit. Then drive the rivet through the footplate lining using a 3 millimeter pin punch.

4.C - Seat

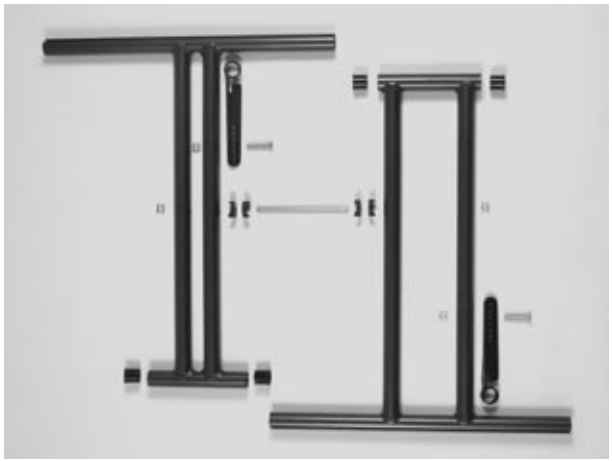
Replacing the crossbrace
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
First remove the front frame parts as described in 4.A. You do not need to detach the wheel locks or footrests. Slowly pull the crossbrace off the linking tubes attached to the rear frame parts. For reassembly, please proceed in reverse order.

Attention: Removal of the crossbrace will separate the rear frame parts from each other.
Carefully lay the rear frame parts onto the work surface once removed.

Replacing the seat upholstery
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
First remove the front end stoppers using a (not too sharp-edged) screwdriver. If the wheelchair is unfolded, slightly fold it to reduce the tension on the crossbrace and then pull the seat upholstery out of the crossbrace's profile tubes.
For reassembly, please proceed in reverse order.

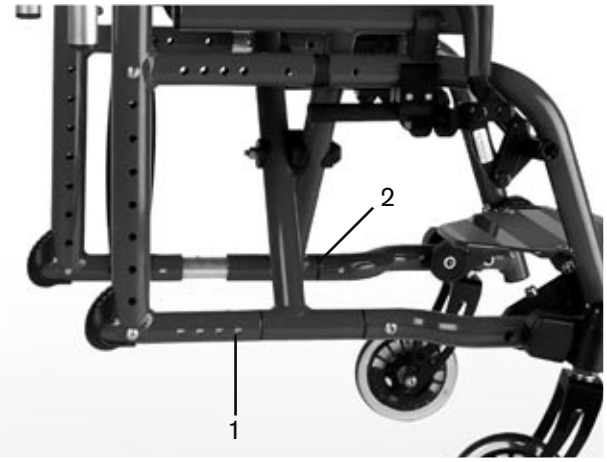
For **readjusting the tension of the seat upholstery**, please observe the information given in the instructions for use manual.

Replacing the crossbrace brackets and "mounting accessories for center crossbrace"
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
After pulling the crossbrace off the rear frame part the crossbrace tongues are only attached to the crossbrace by safety bolts. The safety devices for the bolts can be opened with a screwdriver blade and moved aside. Now you can pull the bolts out and replace the crossbrace tongues. The two halves of the crossbrace are also joined with a safety bolt (or screw on the Teen 2). When the safety device for the bolt is opened the bolt can be removed. This loosens the saddle washers.



Please refer to the instructions and illustrations in the spares parts catalog.
For reassembly, please proceed in reverse order.

Replacing the gliding bushings
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
After removing the crossbrace from the rear frame part the four gliding bushings can be pulled out of the ends of the tubes and replaced.
Please refer to the instructions and illustrations in the spares parts catalog.



Adjusting the seat depth
Teen2-T, Teen2-VR

Please observe the information given in the instructions for use manual.

Cleaning the nylon seat upholstery
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Clean the seat upholstery with regular mild household cleaner.

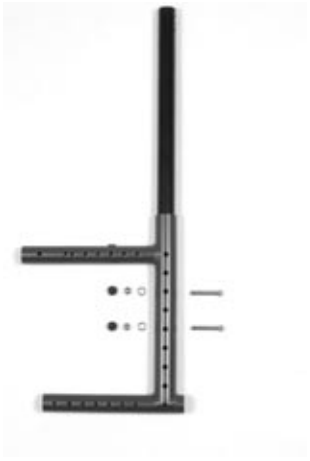
Cleaning the standard seat cushion
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Open the zipper and remove the foam core. Clean the cushion cover according to the sewn in care instructions label.

Retrofitting with the seating system "Adjustable Seat"
T, Ti8.9, VR, Ultra
Please observe the information given in the product's instructions for use manual 647H450.

4.D - Back / Push Handles

Setting the back upholstery
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Please observe the information given in the instructions for use manual.

After adjusting the **back height** the straps must be redistributed. The space between the straps should not be larger than one strap width (approx. 40 mm). If necessary, another strap must be added.



Adjusting the height of the standard back
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
The height of the back tubes can be adjusted by up to 10 centimeters in 2.5 centimeter steps using the row of holes.
Loosen and remove the screw connection.
For reassembly, please proceed in reverse order.
Firmly re-tighten the screw connection.
Use new nuts with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).

Adjusting the height of the Ergo back
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
The position of the back tubes and the ratchet joint are fixed in the rear frame part.
Changing the push handle height simultaneously changes the back height.

Adjusting the angle of the Ergo back
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
After undoing the cap screws in the ratchet joints with an Allen wrench the back can be adjusted to angles between -9 and +15 degrees in 6 degree increments.
Firmly re-tighten the screw connection.
Use new screws with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).

Settings of the push handles
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
Please observe the information given in the instructions for use manual.

Push handles retrofit
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
All types of push handles are screwed to the top end of the back tubes. Please refer to the illustrations in the spare parts catalog.
When changing to the height-adjustable/ removable push handles models 481D05=SK006 or 481D45=SK030 (on the right in the picture), the upper 50 millimeter wide strap must be replaced.

Replacing the rubber hand grips
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
Remove the old rubber hand grips. Using a knife remove the residue of the old glue or rubber from the handle surface and from inside the tube. Using a clean cloth and solvent, fully degrease the ends of the push handle tubes. Open the two part adhesive sachet. Observe the instructions given by the manufacturer of the adhesive.
Use the spatula to squeeze out all the contents of the sachet into the center of the mixing card. Mix the adhesive using the spatula.

Ensure you work effectively after mixing, since the adhesive sets quite quickly. Apply half of the adhesive into each of the rubber hand grips using the spatula. Evenly distribute the adhesive in the rubber hand grip up to a depth of approx. 4-5 cm. Slide the rubber hand grips onto the push handles rotating them slightly as they are pushed on.

Attention: Now wait for at least 24 hours so as to allow full curing of the adhesive.

Cleaning the nylon back upholstery
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Clean the back upholstery with regular mild household cleaner.

Cleaning the standard back cushion
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Open the zipper and remove the foam core. Clean the cushion cover according to the sewn in care instructions label.

Retrofitting with the back system "The Back"
T, Ti8.9, VR, Ti Ultra
Please observe the information given in the product's instructions for use manual 647H491.

4.E - Side Panels

Attaching the side panels
T, Ti8.9, VR, XXL 2, Ti Ultra
"Adjustable, with protection against cold', "Clothing protector, adjustable, with protection against cold"
Ti8.9, Ti Ultra
"Clothing protector, carbon"
Teen2-T, Teen2-VR
"Adjustable, short (long)", "Clothing protector, adjustable, plastic, short (long)", "Side panel, short (long), with height-adjustable armrest"
All these side panels are attached to the front frame tube with two screws (one on the Teen2) and attached to the back tube with one screw and a plastic clamp.

Models suitable for use with the Ergo back have a long slot where it attaches to the back tube of the wheelchair.

Use the array of screw-holes to set the side panel height, so the top panel edge is around 25 millimeters higher than the wheels and so fingers can't get trapped in the gap.

If you want to change from desk side panels to the side panels mentioned here you will also need the mounting kit 481A45=SW048.

If the seat height is 48 centimeters or more then an adapter must be attached between the side panel and the front frame part.

Attaching the plastic plug-on side panels 481E45=PK045
T, Ti8.9, VR, Ti Ultra, XXL 2

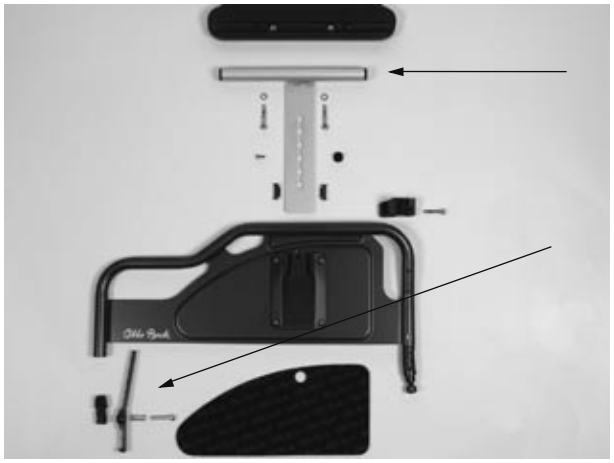
First attach the left and right attachment devices to the front frame tubes.

Use the array of screw-holes to set the side panel height and depth positioning, so the top panel edge is around 25 millimeters higher than the wheels and so fingers can't get trapped in the gap.

Attaching the desk side panels 481E09=PK085 and the "side panel, long" 481E09=PK090
T, Ti8.9, VR
To attach these side panels you need the mounting kit reference 481A45=SW067.

First screw the attachment device to the rear frame part as in the right hand picture. Hold the side panel alongside the attachment device to determine the position for the front support bracket. Screw the support bracket to the front frame part.

Insert the side panel into the attachment device. Fold the side panel forwards and engage the lock.



Replacing the armrest pad
(see spare parts catalog item 14, group E)

Undo and remove the two screw connections and replace the armrest pad.

Replacing the locking lever
(see spare parts catalog item 12, group E)

Undo and remove the screw connection and replace the locking lever.

Replacing the height adjustment mechanism
(see spare parts catalog item 2, group E)

First remove the neoprene insert.
Remove the residue of the old glue or neoprene. Drill the rivets from the head side using a drill bit (Ø 5 mm) until the head comes loose. Then drive the rivet through the side panel using a pin punch (Ø 3 mm). Insert the new rivets from inside through the side panel and the new height adjustment plate, then fasten the rivets using a pop rivet gun. Glue a new neoprene insert into the side panel.

Attaching the padded armrest
T, Ti8.9, VR
481E45=PK099
Teen2-T, Teen2-VR
481E45=PK103

Screw the left and right attachment devices to the rear frame parts.

Insert the armrest tubes into the attachment devices.

The height of the armrests can be set in one of three height positions with the stops in the attachment device.

4.F - Caster

Setting the caster wheel journal angle
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

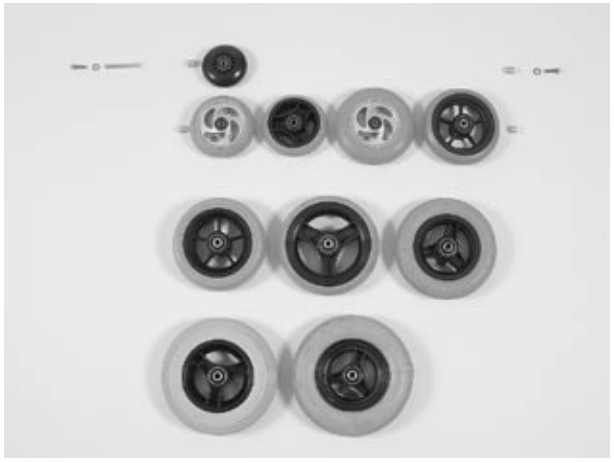
Please observe the information given in the instructions for use manual.

Make sure that the casters journal is horizontal not only in driving direction but also in transverse direction.

Tighten the screw connection with the specified torques:
T, VR, Teen2-T, Teen2-VR, XXL 2 (VA screws)
23 Nm
Ti8.9, Ti Ultra (aluminum screws)
13 Nm

Replacing the casters
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
The anterior seat height is set via the row of holes in the fork and via the caster wheel diameter. To do this, please refer to the seat height table in the instructions for use manual.

Loosen the screw connection on the casters and remove the wheels from the fork.
For reassembly, please proceed in reverse order.



Firmly re-tighten the screw connection. Use new screws with thread lock or apply a liquid thread lock to the existing screws (refer to section 3).

Attention:
The casters must be replaced, if the material shows signs of cracking or damage and when the tread becomes worn down to such an extent that there is only 5 mm of radius left on the outer edges of the tire.

Replace the casing of pneumatic tires if it is bald or shows cracking or other damages.

Replacing the caster fork
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
First undo and remove the nut above the caster mounting. Pull the fork with the axle out of the ball bearings. Next, loosen and remove the nut at the lower end of the threaded axle. For reassembly, please proceed in reverse order. Firmly re-tighten the screw connection. Use new nuts with thread lock or apply a liquid thread lock to the existing screw (refer to section 3).

Replacing the caster mounting
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ultra, XXL 2
Loosen and remove the screw connections and remove the caster mounting from the front frame part. For reassembly, please proceed in reverse order. Firmly re-tighten the screw connection. Follow the instructions under "Setting the caster wheel journal angle".
Use new screws with thread lock or apply a liquid thread lock to the existing screw (refer to section 3).

Changing to forks with quick-release axle
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Remove the caster fork and the threaded axle from the caster mounting bearings.

Take the caster wheels out of the old forks and mount them in the new forks with quick-release axle.

Insert the new forks with the quick-release axle through both bearings of the caster mounting.
For **adjusting the quick-release axle**, please refer to 4.G.

Attaching the caster adapters
481F45=SK001 (+ 3.5 cm)
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra
Loosen and remove the caster mountings from the frame.

Screw the caster adapter to the front frame part to raise it.
Then attach the caster mounting to the caster adapter.
Use the new screws supplied.
Readjust the caster journal angle.

Attaching the caster adapters
481F45=SK005 (- 3.5 cm)
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra
Loosen and remove the caster mountings from the frame.

Screw the caster adapter to the front frame assembly to lower it.
Then attach the caster mounting and spacer to the caster adapter.
Use the new screws supplied.

Readjust the caster journal angle.

4.G - Rear Wheel

Replacing the tires
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

For replacing the tire casing, inner tube and rim band, please observe the information given in the instructions for use manual.

Attention:
Replace the tire casing if it is bald or shows cracking or other damages.

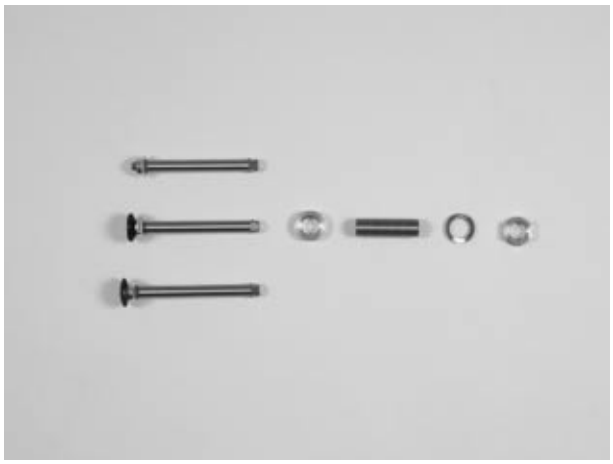
Re-tightening the spokes and adjusting to a radial excursion with a maximum of ±1 mm
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Check to see if spokes are broken and that they are still tight by trying to move them.

Adjustment of the radial excursion requires special devices and expertise. Please have the adjustment carried out by a bicycle workshop.

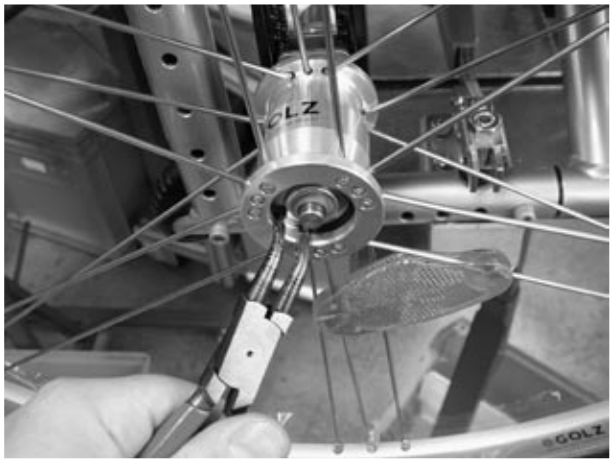
Replacing the push rings and setting the mounting position "narrow / wide"
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Completely remove the tire.
Loosen and remove the screw connection of the push rings with the rim.
Mount the push rings in the narrow or wide mounting position in relation to the rim.
For mounting the tires please refer to "Replacing the tires".



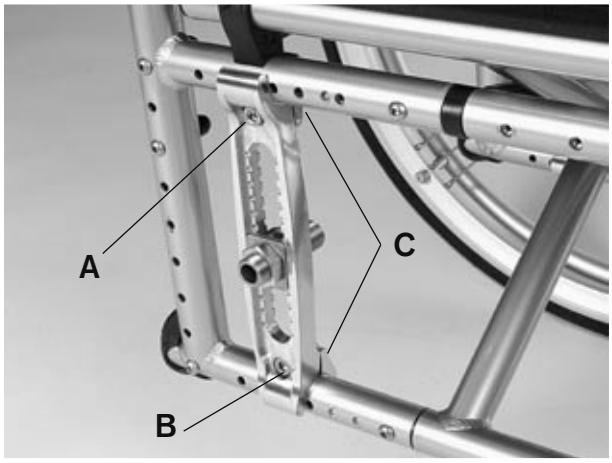
Setting the quick-release axle
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
The quick-release axle should be set so the wheel is fully engaged but has the minimum amount of lateral axle play. Using a wrench hold the inner end of the axle still, whilst the outer nut of the axle is adjusted so as to give the correct lateral axle distance.

Please also observe the information regarding **maintenance, cleaning and care** given in the instructions for use manual.



With some rear wheels the quick-release axles are secured with retaining rings to protect them from falling out of the wheel hub. Remove the retaining rings using circlip pliers and pull the quick-release axle out of the hub.

Reposition the retaining ring into the hub only after having set the quick-release axle.



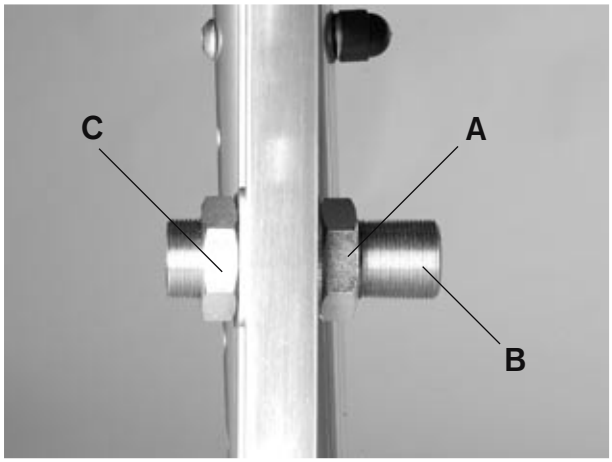
Adjusting the rear wheel adapter position in the frame
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2

Please observe the information given in the instructions for use manual.

Tighten the screw connections with the specified torques:

T, VR, Teen2-T, Teen2-VR, XXL 2 (VA screws)
23 Nm

Ti8.9 (aluminum screws)
13 Nm

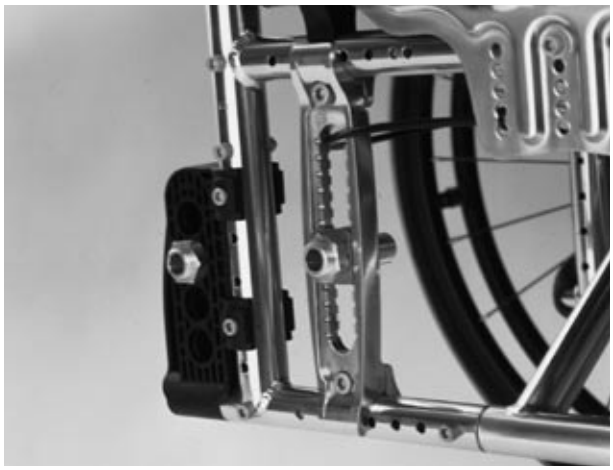


Adjusting the height of the rear wheel in the rear wheel adapter
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2

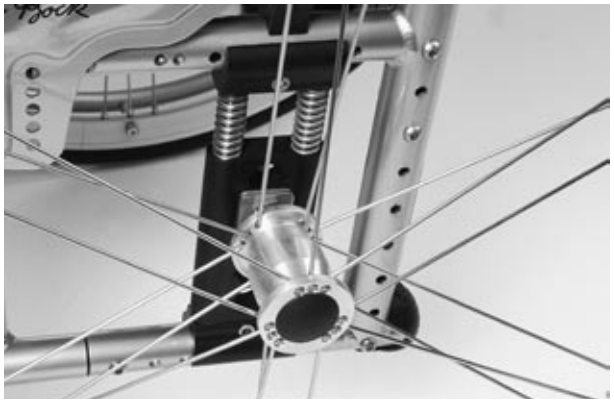
Setting the wheel camber
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2

Please observe the information given in the instructions for use manual.

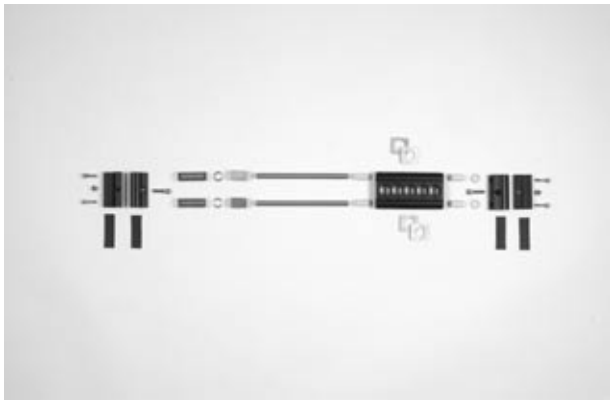
Tighten the screw connection of the quick-release axle housing with the specified torque of **50 Nm**.



Attaching a wheelbase extension
T, Ti8.9, VR, Teen2-T, Teen2-VR
Screw the rear wheel adapter of the wheelbase extension to the rear frame part. The rear wheel can be mounted in four vertical positions, but camber cannot be set. Tighten the screw connections with the specified torques: models Avantgarde **T, VR, Teen2-T, Teen2-VR** (VA screws) **10 Nm**; models Avantgarde **Ti8.9** (aluminum screws): **5.5 Nm**. The wheel lock needs an adapter suitable for the length of the front frame part (see 4.H).



Attaching a shock absorber system
T, Ti8.9, VR, Teen2-T, Teen2-VR
Loosen and remove the screw connection of the rear wheel adapter and detach it from the frame. Instead mount the shock absorber system. Please observe the information given in the instructions for use manual included with the shock absorber system. Disassemble the quick-release axle housing from the old rear wheel adapter and mount it to the hole plate. Tighten the screw connection of the quick-release axle housing with the specified torque of 50 Nm. Lubrication of the shafts is not required. However, the shafts must be clean and free from scores or grooves.

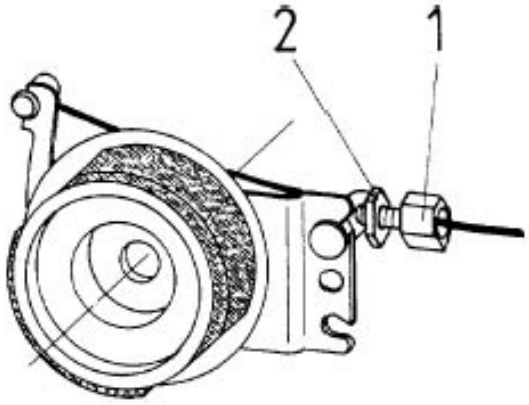


Changing to another patient weight category
Loosen and remove the screw connection on the upper side of the spring shafts. To do this, unscrew the two screws alternately by one turn only. After having removed the tube clamp from the shafts you can slide the springs and the hole plate off the shafts. Remove the two elastomers from the hole plate. If the hole plate has play on the shafts, the gliding bushings can be driven out using a pin punch (Ø 6 mm) and replaced with new ones. For reassembly, please proceed in reverse order. Use new, color-marked elastomers and compression springs of the desired degree of hardness (yellow/soft/40-65kg, blue/medium/66-90kg, red/hard/91-120kg).

Attaching wheels with drum brakes
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
To be able to mount wheels with drum brakes you first have to replace the standard quick-release axle housing with the provided bushing and brake anchor.

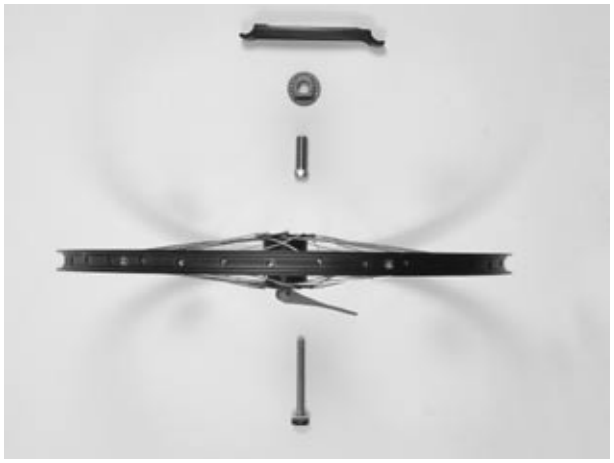
Please observe the information given in the spare parts catalog.

For attachment of the brake handle the push handle must be equipped with an extension.



Setting the drum brakes
T, VR, Teen2-T, Teen2-VR, XXL 2

Please observe the information given in the instructions for use manual.



Attaching rear wheels with hub brake
T, VR, Teen2-T, Teen2-VR
To be able to mount wheels with hub brakes you first have to replace the standard quick-release axle housing with the provided bushing and hole plate with square neck.

Please observe the information given in the spare parts catalog.

Attaching rear wheels with one-Arm drive
T, VR
To be able to mount wheels with one-arm drive you first have to replace the standard quick-release axle housing with the provided bushings.

Please observe the information given in the spare parts catalog.

Attaching a spoke protector
T, Ti8.9, VR, Teen2-T, Teen2-VR, XXL 2
An appropriate spoke protector is available for most rear wheels.
Please refer to the information given in the spare parts catalog.

The spoke protectors are mounted with snap fasteners (attachment nipples).

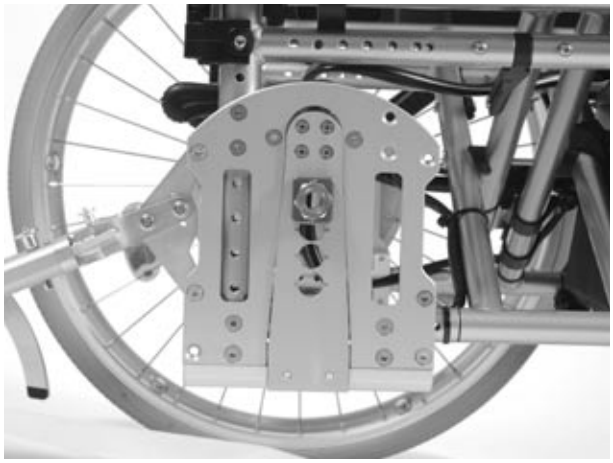
In some cases the spoke protectors are mounted with screw connections (retainer nuts).

Please refer to the information given in the spare parts catalog.

Attaching e-support
T, VR
Replace the rear wheel adapter with the e-support attachment adapter.

Only one height position is possible.

Please observe the information given in the e-support instructions for use manual 647H388.



Attaching *z50*
T, VR, Teen 2-T
Replace the rear wheel adapter with the z50 attachment adapter.

This adapter can be set to one of four heights.

Please observe the information given in the *z50* instructions for use manual.

4.H - Wheel Lock/Brake

Setting / Replacing a wheel lock
T, Ti8.9, VR, Ti Ultra, XXL 2

After loosening the two screws the distance between the wheel lock and rear wheels can be changed.

Remove the two screws in order to remove the wheel lock.

Setting / Replacing a wheel lock with clamp fittings
Teen2-T, Teen2-VR

Loosening the two screws opens the clamp attaching them to the fame and allows the distance between the wheel lock and rear wheels to be adjusted.

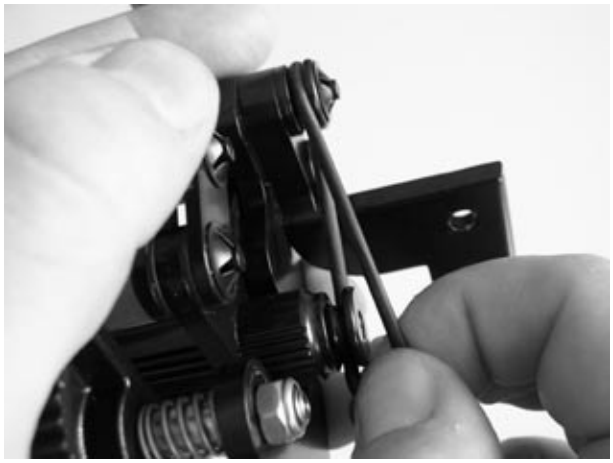
Remove both screws to detach the wheel lock and clamp attachments.

T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

To set the wheel look please refer to the information given in the instructions for use manual.

Make sure you set the distance to the rear wheel correctly. When making settings on the distance between rear wheel and side panel or when changing the wheel camber, **ensure** that the brake block is in the correct position.
Attention: With a protruding brake block there is the risk for the user to get their hands injured.
The brake block should reach over the wheel up to at least 3/4 of the tread width, but not beyond the wheel. For some models, brake blocks of different lengths are available (refer to the spare parts catalog). A setting can also be made by changing the distance between the wheel and side panel (refer to 4.G).

Replacing the threaded bolt of the wheel lock
T, Ti8.9, VR, Ti Ultra, XXL 2
The threaded bolt only has to be replaced when the front frame part is replaced. The set screw in the middle acts as a guide in the slot. Undo and remove the set screw and slide the threaded bolt out of the detached front frame part. For reassembly, please proceed in reverse order. When the set screw is screwed in it must not jut out beyond the edge of the tube.

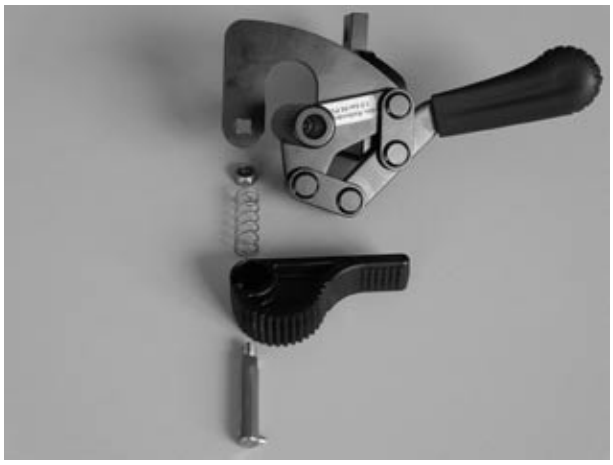


Replacing the O-rings
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Replace worn out or porous O-rings.

Stretch and apply the new O-ring as shown here from the abutment to the brake block.

Replacing the wheel lock lever covers
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Please refer to section 4.D "Replacing the rubber hand grips".
Replacing the brake block
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2
Loosen and remove the screw in the brake block and pull the brake block to the side off the holding plate. For reassembly, please proceed in reverse order. Firmly re-tighten the screw connection.



Replacing the reverse-roll lock
T, Ti8.9, VR, Ti Ultra
Loosen and remove the nut from the bolt on which the reverse-roll lock is seated.
Pull the bolt out of the holding plate.
Replace the plastic serrated element of the reverse-roll lock and, if necessary, the compression spring.

Insert the bolt into the new plastic element, thread on the compression spring and insert the bolt with the square neck into the holding plate, so that the half-length taper-grooved dowel pin in the head of the bolt points in forward direction.

Firmly re-tighten the screw connection.

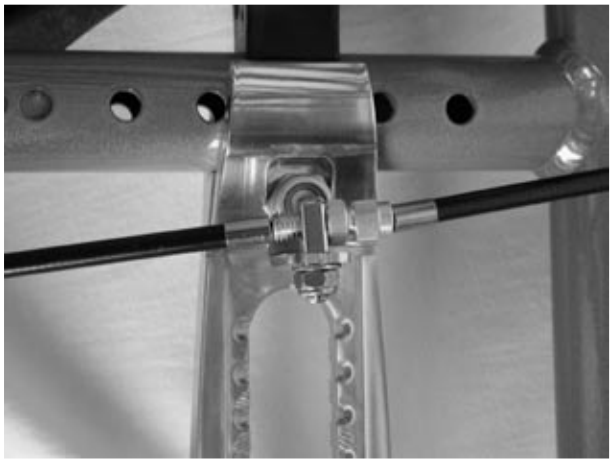
Attaching the wheel lock for user and attendant T, Ti8.9, VR, XXL 2

First mount the extension for the push handle.

The following steps are for one side of the wheelchair.

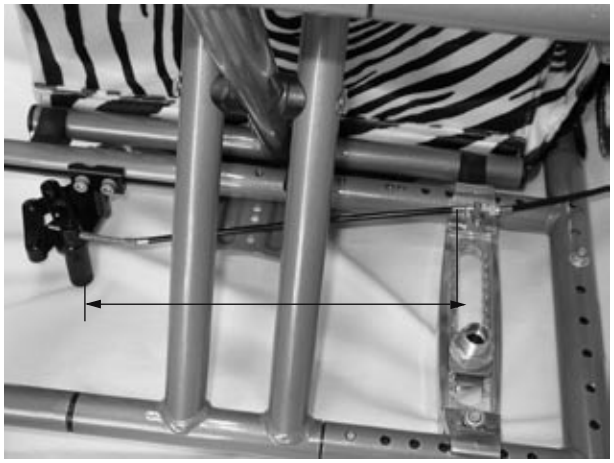
Insert the brake cable in the brake operating lever and screw the brake operating lever to the push handle.

Replace the wheel lock with the provided one (refer to "Replacing a wheel lock").



Screw the "holder" as shown in the picture to the upper inner side of the rear wheel adapter with the longer screw supplied.

Shorten the cable housing to match the height of the push handle.



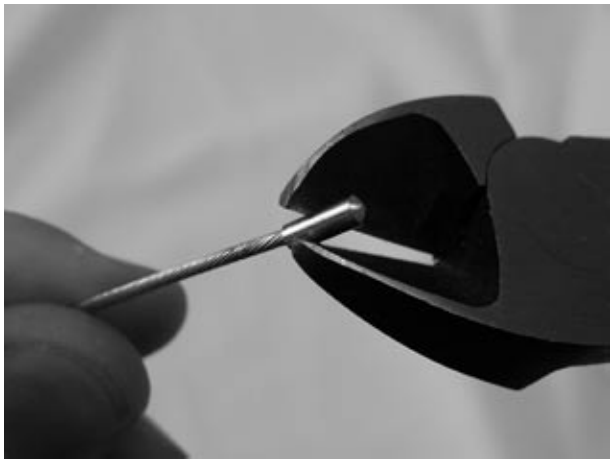
Before installing the brake cables set the wheel lock correctly for the rear wheel.

Measure the distance between the "holder" and the brake block of the brake when not applied.

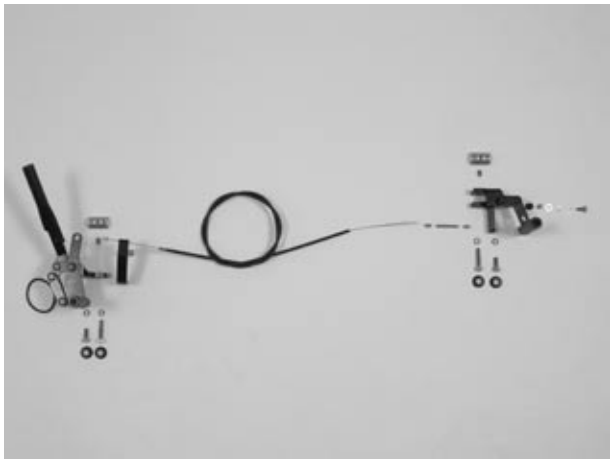
Cut a length of the cable housing that is 4 centimeters shorter than the length measured above.

Now join the brake cable and the cable housing with the appropriate end sleeves and compression spring as in the picture.
Insert the brake cable through the bore hole in the pressure lever and clamp the brake cable lightly with the set screw.
Set the strength of the attendant brake to your liking by adjusting the brake cable.

Cut off the brake cable to approx. 1 cm **only after** all settings have been made.



Put the provided cable end sleeve onto the end of the brake cable and clamp the cable end sleeve using side cutting pliers.



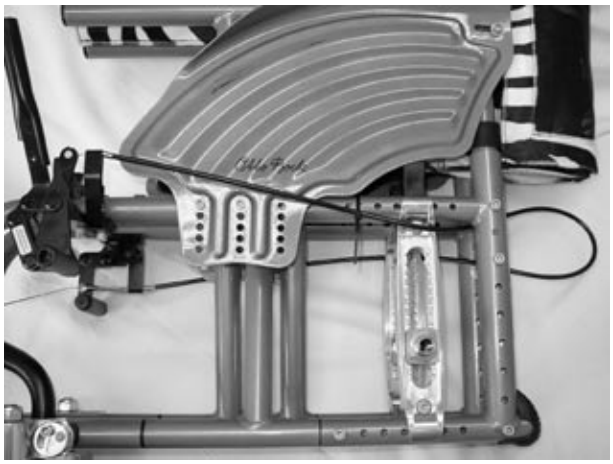
Attaching the wheel lock for one-handed operation

T, Ti8.9, VR, XXL 2

Replace the wheel locks with the provided ones (refer to "Replacing a wheel lock").

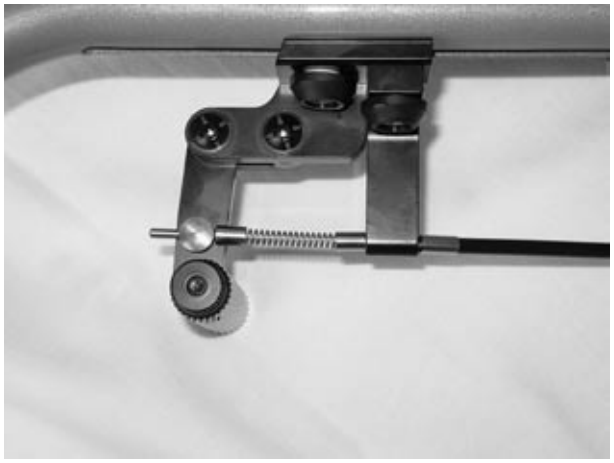
Use the **longer screws** provided.

Put the end of the brake cable into the brake.



Positioning of the brake cable must take place with frame unfolded.

Feed the brake cable as shown in the photo, along the frame and between the rear wheel adapter and the frame to the opposite side. Then feed the brake cable back forwards to the opposite wheel lock.



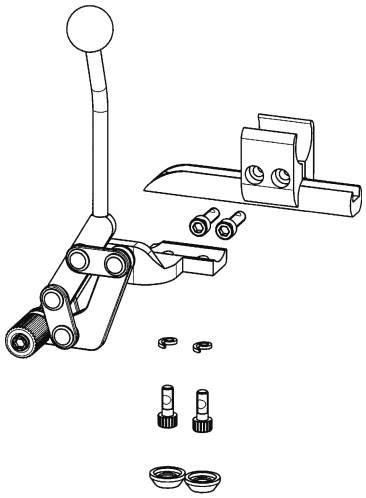
Now assemble together the brake cable with the cable end sleeves and the compression spring as shown in the photo.
Insert the brake cable through the bore hole in the cable attachment pin and lightly clamp the brake cable by tightening the nut.
Set the brake function by adjusting the brake cable so as to obtain an even braking effect on both sides.
Cut off the brake cable to approx. 1 cm **only after** all settings have been made.
Put the provided cable end sleeve onto the end of the brake cable and clamp the cable end sleeve using side cutting pliers.

Attaching the plug-on wheel lock lever extension
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Cut open the wheel lock lever handle cover and peel it off the wheel lock lever.
Plug the wheel lock lever extension onto the wheel lock lever and screw the cord to the front frame part.

Attaching a brake adapter for wheelbase extension
T, Ti8.9, VR

This allows the wheel lock to be placed further back when using a wheelbase extension (see 4.G).



Attaching the wheel lock with adaptable operating lever 481H45=PK017
Teen2-T, Teen2-VR

Replace the wheel locks with the provided ones (refer to "Replacing a wheel lock").

Use the screws supplied.

Adjusting the operating lever 481H45=PK017 Teen2-T, Teen2-VR

The length and angle of the operating lever can be adjusted.

Unscrew the brake from the wheelchair and pull the grip cover off the end of the operating lever.

Shorten the operating lever by sawing to the right length.

The shorter the lever, the more effort it takes to operate. The operating lever can be set to the desired angle using the bending tool 711S6.

Put the grip cover on the end of the operating lever and reattach the brake to the wheelchair.

4.S - Accessories, Accessory Products

Attaching a safety belt with metal buckle
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ti Ultra, XXL 2

Attach the safety belt with the screws provided to the uppermost bore hole of the rear frame part.

Attaching a safety belt with plastic buckle
T, Ti8.9, VR, Teen2-T, Teen2-VR, Ultra

The safety belt is attached to the back tubes with the loops.

Hersteller/Manufacturer:

Otto Bock HealthCare GmbH

Max-Näder-Straße 15 · 37115 Duderstadt/Germany

National: Telefon (0 55 27) 848 1461/1462/1463 · Fax (0 55 27) 848 14 60

International: Phone +49-5527-848-1304/1562/1590/1594/3663 · Fax +49-5527-848-1676

e-mail: reha@ottobock.de · Internet: http://www.ottobock.com

Versandanschrift für Rücksendungen/Address for Returns

Otto Bock HealthCare GmbH

Lindenstraße 13 · 07426 Königsee/Germany

Otto Bock HealthCare GmbH has been certified by the German Society for the Certification of Quality Assurance Systems (DQS) in accordance with DIN EN ISO 9001 standard, reg. no. 779 (management system)

© Otto Bock · 647G153=GB – 08.05